BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC

In the Matter of	)	
Preserving the Open Internet	)	GN Docket No. 09-191
Broadband Industry Practices	)	WC Docket No. 07-52

COMMENTS OF THE ASSOCIATION FOR COMPETITIVE TECHNOLOGY

Communications with respect to this document should be sent to:

Morgan Reed
Executive Director
ASSOCIATION FOR COMPETITIVE TECHNOLOGY
1401 K St. NW, Suite 502
Washington, DC 20005
Tel: (202) 331-2130

October 12, 2010

I. SUMMARY AND INTRODUCTION

The Association for Competitive Technology respectfully submits these comments in response to the Commission's September 1, 2010 Public Notice announcing a further inquiry on the subjects of "specialized services" and the "application of openness principles to mobile wireless platforms".

As ACT noted in its earlier comments[1] to the Commission's *Notice of Proposed Rulemaking in the Matter of Preserving the Open Internet (NPRM),* developers of software and providers of IT services rely on competition and unrestricted user access to content, applications, and devices. These principles have effectively served Internet communications policy for the past six years since they were first articulated by Chairman Powell.[2]

While the rapid growth of mobile wireless platform presents new areas for comment regarding FCC action, we believe our previous submission regarding "specialized services" continues to be applicable[3]. Specifically, that the FCC should be wary of implementing any rule that would prevent new technologies and or business models, and that small technology companies in particular are concerned about the regulatory burden that would exist in applying for recognition as a "specialized service". Finally, we would take special exception to one of the proposed "general policy approaches to addressing" concerns around specialized services. Paragraph (E) *Limit Specialized Service Offerings* is a direct assault on the ability of innovative companies to create new, not yet considered, technological or business model offerings. We urge the Commission to reject this policy direction immediately in order to provide clarity to those who are looking for business opportunities and new technology partnerships.

---

[1] http://actonline.org/publications/files/ACT-FCC-filing-on-NN_v.FINAL_.pdf
[2] http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-243556A1.pdf
[3] ACT January 14th filing, pages 10-14

With regard to the Commission's inquiry into the *Application of Open Internet Principles to Mobile Wireless Platforms*, ACT believes there are three key points for the Commission to consider:

- Mobile device applications sold through application storefronts have created an entirely new marketplace for software developers with nearly unfathomed opportunity for growth. The largest impediment to that growth will be the lack of spectrum to carry the content, entertainment, and business applications ACT's members are busy creating.
- Network management is far more critical to the functionality of a wireless network than traditional wireline or fiber offering. Greater latitude should be given to carriers to manage the network, including the implementation of LTE and WiMAX capabilities to provide Quality of Service (QoS), traffic shaping, and bit rate throttling.
- The Commission's interest in the applications store marketplace is unnecessary. Software developers feel empowered by the many opportunities for development of software for mobile devices. We are currently seeing rapid growth in applications storefronts, including those created by carriers and the soon-to-be introduced Windows Phone 7. Competition among mobile application platforms is fierce, and therefore we see no need for the commission to regulate in this area or for Congress to provide the Commission with such regulatory authority.

II. ABOUT THE ASSOCIATION FOR COMPETITIVE TECHNOLOGY

The Association for Competitive Technology (ACT) is an international advocacy and education organization for developers of software applications and IT services. We represent over 3,000 small and mid-size IT firms throughout the world and advocate for public policies that help our members leverage their intellectual assets to raise capital, create jobs and innovate.

II. DETAILED LOOK AT *APPLICATION OF OPEN INTERNET PRINIPLES TO MOBILE WIRELESS PLATFORMS*

ACT members who develop applications for consumers rely on the well established four principles laid out by the FCC in 2006; however, we believe that wireless broadband poses unique challenges and requires careful study before extending the four principles to wireless. Due to the physical limitations of wireless spectrum, applications developers expect carriers to manage the network in a way that promotes security and eases congestion. Carriers must be able to prevent harm to the network from mis-configured, bandwidth abusing or downright malicious applications or devices.

Beyond the strict terms of preserving networking functionality, the push for openness must not close off opportunity for business model innovation, including quality of service, edge caching and device specific negotiated delivery systems like the one created for Amazon's Kindle.

For ACT's membership, an entirely new industry was created in 2008 with the launch of the iPhone (now iOS) applications store – one in which the customer is dependent on wireless transmission, rather than wireline or fiber to the home.

We expect the mobile online space to present the best opportunity for applications developers in more than two decades. In roughly two years since the creation of the mobile applications marketplace, over 250,000 new applications have gone on sale for Apple's iOS platform, with more than $1 billion dollars paid out to developers directly. The Android platform has recently exceeded the growth rate seen in the iPhone, totaling more than 100,000 applications available, with 10,000 new programs available each month.

Even more important are the opportunities that lay further ahead. According to a recent Morgan Stanley report, the global opportunity for growth and job creation is staggering. True "smartphones" have around 25% penetration in the U.S.; in Asia, it may be as low as 6%.

But as this new applications marketplace has grown, our membership has become acutely aware of how precious and rare spectrum is, and the technological difficulties mobile wireless presents. Unlike wired Internet service, wireless ISPs cannot simply dig more trenches and pull more fiber to increase speed, quality or bandwidth. They depend on government to release more spectrum and they use innovative compression techniques to squeeze more out the spectrum they do have.

Bandwidth scarcity is already a major limitation on application development, and it promises only to get worse. Analysts project mobile data volumes in 2014 to be 25 to 50 times more than what exists on today's networks. For ACT members who write applications for mobile devices like the iPhone, Android or Windows Mobile, this bandwidth scarcity creates its own restrictions on the types of applications that can be written.

In order to ensure the success of this new mobile marketplace, we urge the commission to focus on two new "principles of openness" that will best serve developers and consumers of mobile device applications:

- The first "openness" principle would be a further opening of the airwaves through more spectrum auctions, including exploring release of existing government-held spectrum not currently under consideration.

- The second is a program that incents spectrum licensees to fully build out their allocated spectrum, or expand the ability to sublicense the spectrum to other

carriers who have the facilities to utilize it. The FCC should work to ensure that scarce spectrum does not "lie fallow."

Transparency

We seek comment on what disclosure requirements are appropriate to ensure that consumers and content, application, service, and device providers can make informed choices regarding use of mobile broadband networks. What information should be disclosed about device and application requirements and certification processes? Are there any existing models that could provide guidance for shaping such rules?

From the perspective of application developers, we believe that mobile carriers have done a relatively good job at transparency. We attribute this not to the charitable attitudes of carriers, but to the demand of their consumers for high quality applications to run on their networks and be included in their apps stores.

As carriers deploy new 4G technology that will dramatically increase the speeds of their networks, they are actively encouraging developers to create the next generation of applications. The best way for developers to be informed of application requirements will be through the terms and conditions laid out in developer licenses and online store rules. The major carriers have developed programs that target application developers and persuade them to develop apps for their networks and devices. As an example, AT&T's Developer Program offers a number of resources for software developers, including software development kits, a mobile application planner, information on handsets, and other information about building applications for AT&T's mobile network.[4] In addition, Sprint's Applications Developer website features best practices tips, community forums, and how Sprint can help developers market their apps.[5] Verizon has gone even further and opened its own applications store, directly supporting developers on the

[4]See http://developer.att.com/developer/forward.jsp?passedItemId=100006
[5] See http://developer.sprint.com/site/global/home/p_home.jsp

Android platform.[6]So long as the developer community continues to see this level of competition among carriers, we believe that there will be sufficient transparency for application developers. We are therefore hesitant to recommend specific rules to the FCC.

Devices

We seek further comment on the ability of new technologies and business models to facilitate non-harmful attachment of third-party devices to mobile wireless networks. Can adherence to industry standards for mobile wireless networks ensure non-harmful technical interoperability between mobile broadband devices and networks? Will deployment of next-generation technologies (e.g., LTE) further facilitate interoperability? To the extent that compliance with technical standards needs to be validated through laboratory testing, could such testing be conducted through independent authorized test centers?27 Were the Commission to require mobile providers to allow any non-harmful device to connect to their network, subject to reasonable network management, how would mobile broadband provider conduct have to change, if at all, in light of existing device certification programs?

As noted above, some mobile providers have introduced usage-based data pricing. To what extent do these business models mitigate concerns about congestion of scarce network capacity by third- party devices?

We support 'any device on any network' but also recognize the importance of managing a network, especially a wireless network dependent on scarce spectrum, for capacity and security. It is important that the slogan of "any device on any network" not overcome the practical reality of managing a scarce resource.

Because of the technological underpinnings of the TCP/IP protocol, applications can, even unintentionally, cause havoc on a network. In the recently released movie "The Social Network", future Facebook founder Mark Zuckerberg brings down the Harvard computer network simply because so many users are trying to access his site. In the same way, a device attached to a wireless tower could, if not throttled properly, shutdown all other users' access to that tower.

[6] http://www.helium.com/items/1953079-verizon-opens-its-own-android-app-store

ACT's membership therefore would not support a regulatory mandate that forces carriers to open their networks without a definition of "non-harmful" that includes the ability to restrict or throttle applications that impede other customers from connecting to the network, or to individual applications or websites.

In ACT's January 14th filing before the FCC, *Preserving the Open Internet,* we noted that some in the industry are worried network management that includes packet prioritization could "break the social contract". Our membership felt differently, saying:

> *"…our developers see an opportunity. In basic terms, if my application doesn't need a high Quality of Service or especially low latency, I would be happy to let another developer who does need lower latency subsidize the improvement of the network overall by paying for it."*[7]

It now seems obvious that by 2011 the rollout of LTE and WiMAX will show that true quality of service (QoS) architectures present both a solution and an opportunity for dealing with network clogging. LTE's new Evolved Packet Core technology will allow for better packet queuing, and allow for different types of applications to have differing amounts of delay, tolerance to packet loss, and bit rates. All of this will result in more third party devices attaching to the network, and for new business models, including ones based on guaranteed levels of service, to come to the fore.

ACT would like to note that we see the natural evolution of the marketplace moving toward open networks. Carriers recognize that one of the main values they offer to the data world is mobility, not a whole new proprietary vision of the Internet. New 4G technologies, whether its Long Term Evolution (LTE) or WiMAX, are all designed to increase network capacity, making it cheaper for per-bit delivery. Technology capacity will be the single largest facilitator of

[7] http://www.docstoc.com/docs/41713594/ACT-FCC-filing-on-Net-Neutrality

opening up networks to more devices. Therefore the willingness of carriers to open networks to third party devices is tied closely to needed increases in spectrum.

Usage-based pricing will likely help ease congestion, but this is not the ideal approach from the perspective of application developers. Developers want to see increased use of their products and services, not less. Pricing per bit is likely to create a new hurdle for applications developers, especially those who are new to the market, or lack a sizable advertising budget to educate potential customers. Tiered pricing or unlimited bandwidth pricing, however, offers consumers a pricing model that makes it feel less costly to test and evaluate an products without worrying about the transaction cost of downloading.

While we expect per-bit usage based pricing to be part of the carrier's offerings, any action that would require carriers to only provide per-bit pricing would be disastrous to mobile applications developers.

Instead, ACT's membership wants to maximize use of the available spectrum. We already feel constrained by 3G bandwidth. We want to build bigger and better applications that take advantage of 4G and the new breed of tablet computers entering the market. We want to do more than just make existing full-featured PC apps go mobile—we want to build mobility, location and instant notification features into our apps, and this will require spectrum.

Therefore we expect usage-based pricing to be a reality, and tiered or unlimited bandwidth pricing as a great opportunity for market entry, but also need bandwidth to increase, rather than limiting the utilization of existing network infrastructure.

Applications

While we believe the FCC plays an important role in many aspects of wireless communications, the very freedom the Commission seeks to allow does not come from carriers, but rather from the developer community and the devices that are currently being developed. As ACT noted in recent Congressional testimony[8], the mobile device marketplace and its concomitant applications storefronts are dynamic and highly competitive.

A great deal of attention has been paid to the iPhone, however the latest numbers show an incredibly dynamic marketplace. Devices running the Symbian operating system around the world are, far and away, the current market leader, with others changing position almost daily. Statistics published for the second quarter of 2010 showed that Symbian devices comprised a 41.2% share of smart mobile devices sold, with RIM (BlackBerry at 18.2%, Android at 17.2%, and Apple at 15.1%.[9]

Symbian's dominance often goes unnoticed because its reach is so complete. Nearly every major carrier in the world carries Symbian phones. Here in the U.S., Symbian phones can be found on all GSM networks: AT&T carries Symbian smartphones from SonyEriccson and Nokia[10], as does T-Mobile[11]. Symbian phones have several different app store options, including Nokia's Ovi, the Samsung Application Store, and the Sony PlayNow Arena[12].

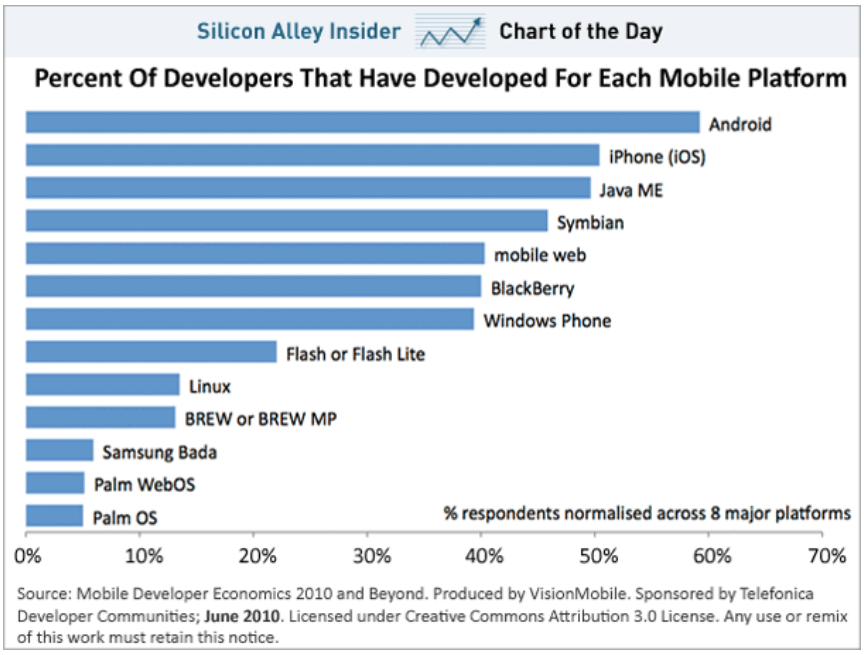
But even Symbian's dominance is likely fleeting. A study released by Gartner on September 10, 2010, says that Symbian's first place ranking will be challenged not by the iPhone, but by

[8] Morgan Reed: Testimony before the House Committee on the Judiciary, Subcommittee on Courts and Competition Policy, September 12, 2010
[9] http://arstechnica.com/gadgets/news/2010/08/smartphones-lead-mobile-sales-android-moves-into-no-3-spot.ars
[10] http://www.wireless.att.com/businesscenter/phones-devices/device-solutions/symbian-smartphones.jsp
[11] http://www.t-mobile.com/shop/phones/?shape=smp&WT.z_unav=mst_shop_phones_smart
[12] http://www.trustedreviews.com/mobile-phones/news/2009/10/28/Symbian-App-Store-Goes-Live/p1

Google Android. By 2014, iOS (the operating system for the iPhone and iPad) will have fallen to a distant third.[13]

Developing for Multiple Platforms is the Norm

Both external sources and ACT's internal polling show that a high percentage of our members are developing for multiple platforms. This is not an inhibition or barrier to development, as some have suggested. In fact, the range of options in platform languages provides *more* opportunity for developers.



Mike Sax, our current board president, is a perfect example. Mike is a long-time developer of applications for the Windows platform. Two years ago, he wrote an app for the iPhone called Easywriter that was a huge success, with millions of downloads. Two months ago, Mike attended the Android developers conference to prepare for porting Easywriter to Android, and he's already thinking about his next Windows Phone 7 application. For developers like

[13] http://www.gartner.com/it/page.jsp?id=1434613

Mike, getting to work with, and develop for, the newest innovative technology platforms is almost as important as breathing.

Other ACT members are developing games for the Xbox 360, then porting them to the iPhone using Unity, and still more are looking at breaking into the business market on the Blackberry Torch. Finally, another group is bypassing the apps store concept and focusing on mobile web applications that will run well on mobile devices as well as a traditional desktop.

Because the mobile applications marketplace is dynamic, and developers are not restricted to a single platform (including non-wireless platforms) we see little jurisdictional ability or competitive need for the FCC to involve itself in the mobile applications marketplace directly. If examples were found of carriers blocking specific applications for anti-competitive reasons only, we would encourage the FCC to take a case-by-case approach, rather than any broad industry wide action.

Beyond the narrow question of competition in applications storefronts, carriers and mobile applications developers continue to need a well-managed network in order to provide users of applications the best possible experience. Because mobile bandwidth is at such a premium, mobile applications developers believe carriers should have broad latitude when it comes to wireless network management. Additionally, an ounce of prevention is better than a pound of cure. Applications storefronts should have the ability to set terms and conditions for applications, and are allowed require testing and approval before an application can be downloaded.

Mobile application innovation goes beyond just testing and approval, and can often hinge on business innovations. One obvious area connects back to the Commission's earlier questions regarding "specialized services". In the mobile space, the ability of applications developers to

negotiate contracts or partnerships that would allow an application to offer customers guaranteed Quality of Service, or faster access to data through caching will be critical to moving mobile apps and cloud based services into the business community. The Commission should preserve the ability for carriers and developers to experiment not only with technology, but also business models.

We commend the Commission's desire to maximize innovation in the mobile application space, and would continue to press the point that the greatest way to see innovation is to give the developer community a greater canvas to work upon. For mobile applications, this canvas will come in the form of greater bandwidth. Until additional spectrum is licensed and built out, we will find ourselves trying every imaginable act of technological magic to squeeze the best user experience from the bandwidth equivalent of a coffee stir-straw.